DAIKIN

technical data

air conditioning systems

FFQ-B

4-way Blow Ceiling Mounted Casette (600mm x 600mm)

Split Sky Air

Split - Sky Air

ISO14001 assures an effective environmental management system in order to help protect human health and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment

Daikin units comply with the European regulations that guarantee the safety of the product.

Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.

Daikin Europe N.V. is participating in the EUROVENT Certification Programme. Products are as listed in the EUROVENT Directory of Certified Products.

Specifications are subject to change without prior notice.

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Prepared in Belgium by Goekint Graphics

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FFQ-B

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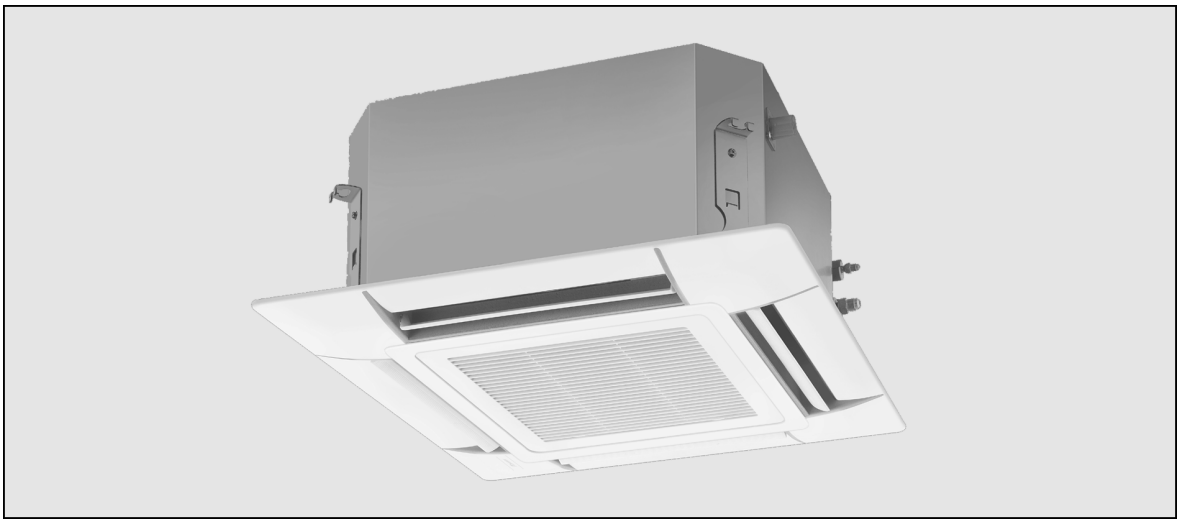
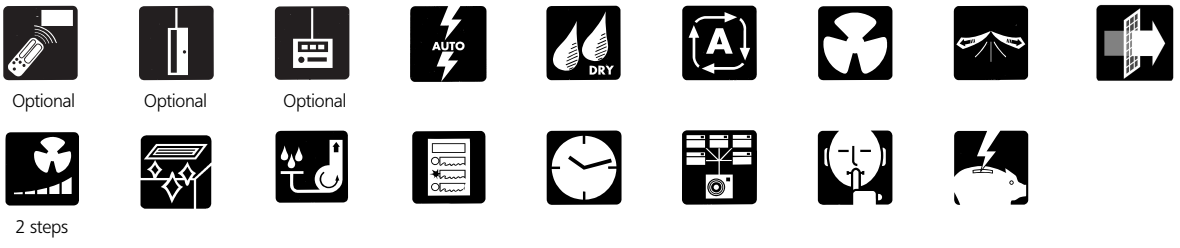
* For capacity tables, please refer to part II: outdoor units

OPTIMISED DESIGN R-410A

1 Features

- Leaves maximum floor and wall space for furniture, decoration and fittings
- Fits flush into each ceiling thanks to the new and very compact casing (only 575mm width), which matches in standard architectural modules.
- Modern looking decoration panel in white (RAL9010)
- Extremely quiet in operation both indoors and outdoors
- Possibility to shut off 1 or 2 flaps for easy installation in corners
- Designed for excellent low draft performance.
- Automatic air flow director ensures uniform air flow and temperature distribution
- Up to 4 indoor units can be connected to 1 Multi outdoor unit. All indoor units are individually controllable with remote control and do not need to be installed in the same room.
- The (wired) remote control has a programmable timer
- Centralised control of several units can be achieved via 3 wired remote controls
  - centralised remote control
  - unified ON/OFF control
  - schedule timer
- Set back time clock: connected to a wired remote controller. The timer can set two groups of on/off times in an increment of 30 minutes within a day. For each on/off setting a temperature setting is also possible.
  *Set back time clock cannot be used in auto mode.





Optional Optional Optional

2 steps

2 Specifications

NOMINAL CAPACITY and NOMINAL INPUT							
For indoor units only:							
INDOOR UNITS				**FFQ25BV1B**	**FFQ35BV1B**	**FFQ50BV1B**	**FFQ60BV1B**
INPUT	Cooling	min.~nom.~max.	kW	0.073	0.084	0.097	0.12
	Heating	min.~nom.~max.	kW	0.064	0.076	0.089	0.111

For combination indoor units + outdoor units:									
INDOOR UNITS				**FFQ25BV1B**	**FFQ35BV1B**	**FFQ50BV1B**	**FFQ60BV1B**	**FHQ50BUV1B**	**FHQ60BUV1B**
OUTDOOR UNITS				**RKS25BVMB**	**RKS35BVMB**	**RKS50BVMB**	**RKS60BVMB**	**RS50BVMB**	**RS60BVMB**
CAPACITY (3)	Cooling	min.~nom.~max.	kW	1.00~ 2.50~ 3.00	1.00~3.40~3.70	0.90~4.70~5.60	0.90~5.80~6.00	4.70 (nom.)	5.80 (nom.)
INPUT	Cooling	min.~nom.~max.	kW	0.48~0.83~1.10	0.48~1.30~1.47	0.45~1.80~2.26	0.45~2.07~2.15	1.80 (nom.)	2.07 (nom.)
EER				3.01	2.62	2.61	2.80	2.61	2.80
ENERGY LABEL	Cooling			B	D	D	D	D	D
ANNUAL ENERGY CONSUMPTION	Cooling		kW/h	415	650	900	1,035	900	1,035

For combination indoor units + outdoor units:							
INDOOR UNITS				**FFQ25BV1B**	**FFQ35BV1B**	**FFQ50BV1B**	**FFQ60BV1B**
OUTDOOR UNITS				**RXS25BVMB**	**RXS35BVMB**	**RXS50BVMB**	**RXS60BVMB**
CAPACITY (3)	Cooling	min.~nom.~max.	kW	1.00~2.50~3.00	1.00~3.40~3.70	0.90~4.70~5.60	0.90~4.70~5.60
	Heating	min.~nom.~max.	kW	1.00~3.20~4.50	1.00~4.50~5.00	0.90~5.50~7.00	0.90~5.50~7.00
INPUT	Cooling	min.~nom.~max.	kW	0.48~0.83~1.10	0.48~1.30~1.47	0.45~1.80~2.26	0.45~2.07~2.15
	Heating	min.~nom.~max.	kW	0.40~0.94~1.75	0.44~1.60~1.80	0.45~1.96~2.78	0.45~2.49~2.92
EER				3.01	2.62	2.61	2.80
COP				3.40	2.81	2.81	2.81
ENERGY LABEL	Cooling			B	D	D	D
	Heating			C	D	D	D
ANNUAL ENERGY CONSUMPTION	Cooling		kW/h	415	650	900	1,035

TECHNICAL SPECIFICATIONS							
For indoor units only:							
INDOOR UNITS				**FFQ60BV1B**	**FFQ35BV1B**	**FFQ50BV1B**	**FFQ60BV1B**
DIMENSIONS	Unit	H	mm	286			
		W	mm	575			
		D	mm	575			
	Decoration panel	H	mm	55			
		W	mm	700			
		D	mm	700			
WEIGHT	Unit		kg	17.5			
	Decoration panel		kg	2.7			
COLOUR	Decoration panel			White (Ral 9010)			
SOUND LEVEL	Sound pressure (1)	high	dB(A)	29.5	32	36	41
		low	dB(A)	24.5	25	27	32
	Sound power (2)		dB(A)	46.5	49	53	58
FAN	Air flow rate	high	m^3/min	9	10	12	15
		low	m^3/min	6.5		8	10
	Speed	steps		2 steps			
		high	rpm	556	624	725	866
		low	rpm	414	414	471	612
	Type			Turbo fan			
	Qty x motor output		W	1x55			
HEAT EXCHANGER	Type			Multi louver fins and Ø 7Hi-XSS tubes			
	Rows x stages x fin pitch		mm	2x10x1.5			
	Face area		m^2	-			
AIR DIRECTION CONTROL				Horizontal and downwards			
TEMPERATURE CONTROL				Microcomputer control			
PIPING CONNECTIONS		liquid	mm	ϕ6.4			
		gas	mm	ϕ9.5		ϕ12.7	
		drain I.D.	mm	ϕ20 (VP20)			
		drain O.D.	mm	ϕ26 (VP20)			
INSULATION MATERIAL	Heat insulation			Both liquid and gas pipes			

For outdoor units only:	Pair application	See chapters RS-B + RKS-B + RXS-B
	Multi model application	See chapters 4MKS-B + 3MXS-B/4MXS-B

2 Specifications

ELECTRICAL SPECIFICATIONS

For indoor units only:			FFQ25BV1B	FFQ35BV1B	FFQ50BV1B	FFQ60BV1B
CURRENT	Nominal running current	A	0.37	0.40	0.49	0.61
	Max. running current	A	See chapters RS-B + RKS-B + RXS-B			

For combination indoor units + outdoor units:				FFQ25BV1B	FFQ35BV1B	FFQ50BV1B	FFQ60BV1B	FFQ50BV1B	FFQ60BV1B
				RKS25BVMB	RKS35BVMB	RKS50BVMB	RKS60BVMB	RS50BVMB	RS60BVMB
CURRENT	Nominal running current	cooling	A	4.2	5.7	8.1	9.3	8.1	9.3
	Maximum running current	cooling	A	See chapter RKS-B				See chapter RS-B	
	Starting current	cooling	A	See chapter RKS-B				See chapter RS-B	

For combination indoor units + outdoor units:				FFQ25BV1B	FFQ35BV1B	FFQ50BV1B	FFQ60BV1B
				RXS25BVMB	RXS35BVMB	RXS50BVMB	RXS60BVMB
CURRENT	Nominal running current	cooling/heating	A	4.2/4.4	5.7/7.0	8.1/8.8	9.3/11.2
	Maximum running current	cooling/heating	A	See chapter RXS-B			
	Starting current	cooling/heating	A	See chapter RXS-B			

For indoor units only:			FFQ25BV1B	FFQ35B7V1	FFQ50BV1B	FFQ60BV1B
POWER SUPPLY			V1			
NOMINAL DISTRIBUTION SYSTEM VOLTAGE	Phase		1~			
	Frequency	Hz	50			
	Voltage	V	230			

3D040444A 3D040442A
3D040437 3D040431
3D040445 3D040443
3D040441 3D040436
3D040438 3D040433

NOTES

1 Nominal cooling capacities are based on: indoor temperature 27°CDB/19°CWB * outdoor temperature 35°CDB * refrigerant piping length: 7.5m * level difference: 0m.

2 Nominal heating capacities are based on: indoor temperature: 20°CDB * outdoor temperature: 7°CDB/6°CWB * refrigerant piping length: 7.5m * level difference 0m.

3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

4 The sound pressure level is measured at 1.5m distance from the unit. It is a relative value, depending on the distance and acoustic environment. For measuring conditions: please refer to item 6 of this chapter.

5 The sound power level is an absolute value indicating the "power" which a sound source generates.

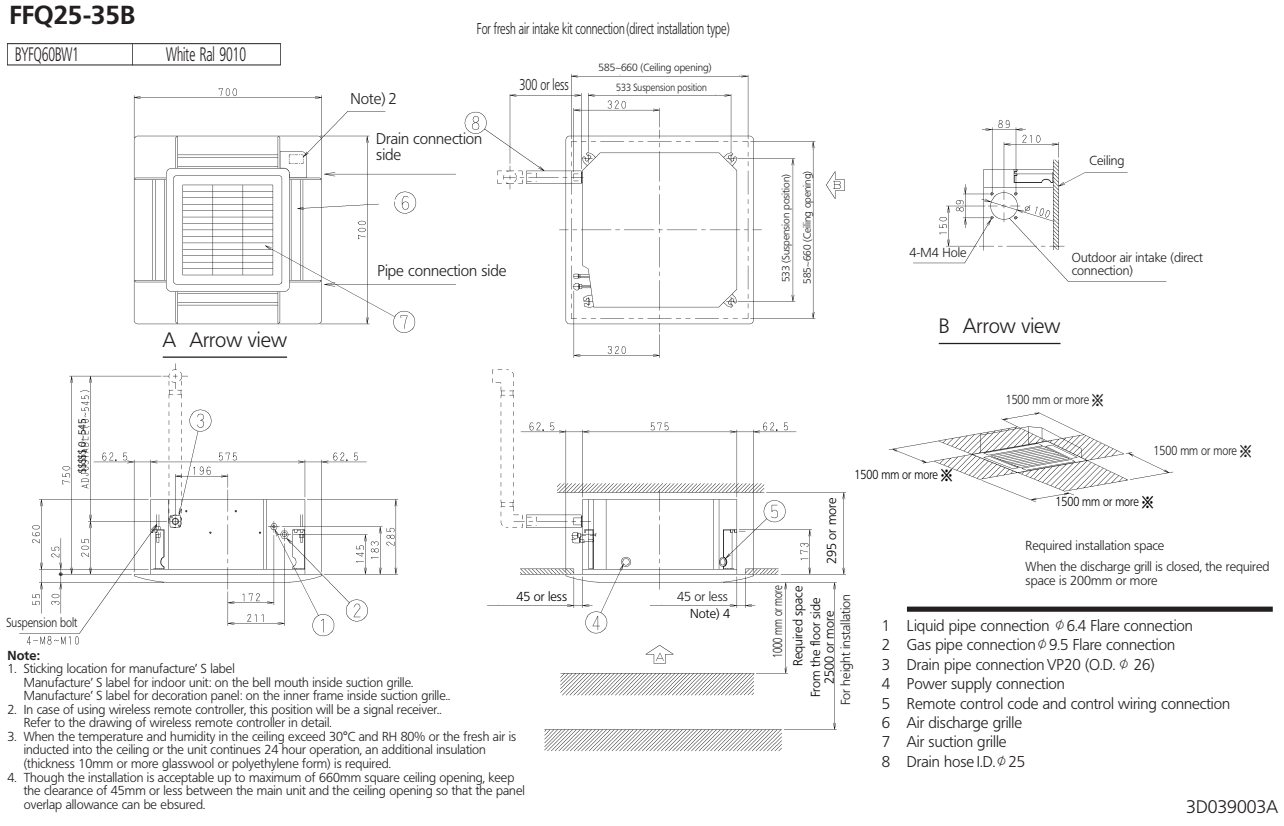
6 Energy label: scale from A (most efficient) to G (less efficient).

7 Annual energy consumption: based on average use of 500 running hours per year at full load (= nominal capacity)

3 Dimensional drawings

FFQ25-35B

BYFQ60BW1	White Ral 9010



Note:
1. Sticking location for manufacture' S label
   Manufacture' S label for indoor unit: on the bell mouth inside suction grille.
   Manufacture' S label for decoration panel: on the inner frame inside suction grille..
2. In case of using wireless remote controller, this position will be a signal receiver..
   Refer to the drawing of wireless remote controller in detail.
3. When the temperature and humidity in the ceiling exceed 30°C and RH 80% or the fresh air is inducted into the ceiling or the unit continues 24 hour operation, an additional insulation (thickness 10mm or more glasswool or polyethylene form) is required.
4. Though the installation is acceptable up to maximum of 660mm square ceiling opening, keep the clearance of 45mm or less between the main unit and the ceiling opening so that the panel overlap allowance can be ebsured.

1 Liquid pipe connection ø6.4 Flare connection
2 Gas pipe connection ø9.5 Flare connection
3 Drain pipe connection VP20 (O.D. ø 26)
4 Power supply connection
5 Remote control code and control wiring connection
6 Air discharge grille
7 Air suction grille
8 Drain hose I.D. ø 25

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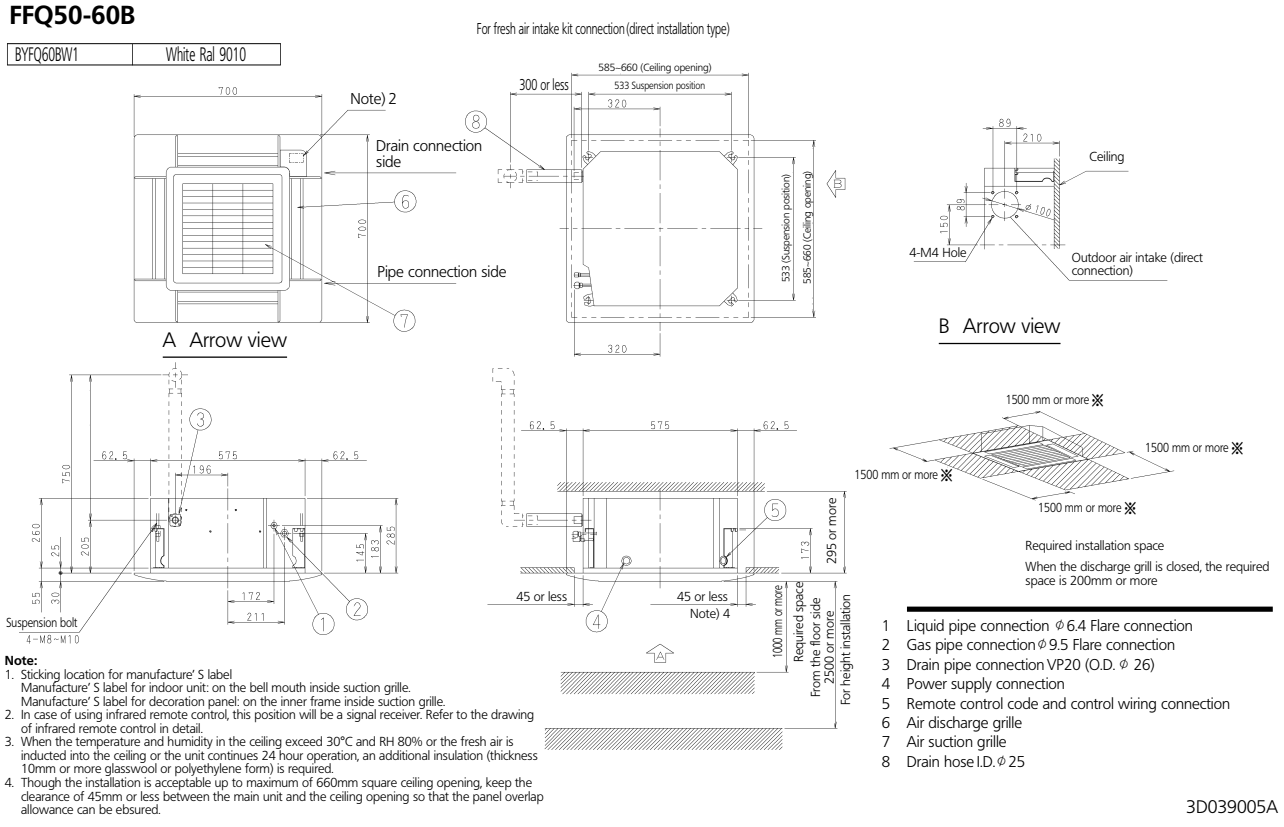
FFQ50-60B

BYFQ60BW1	White Ral 9010



Note:
1. Sticking location for manufacture' S label
   Manufacture' S label for indoor unit: on the bell mouth inside suction grille.
   Manufacture' S label for decoration panel: on the inner frame inside suction grille.
2. In case of using infrared remote control, this position will be a signal receiver. Refer to the drawing of infrared remote control in detail.
3. When the temperature and humidity in the ceiling exceed 30°C and RH 80% or the fresh air is inducted into the ceiling or the unit continues 24 hour operation, an additional insulation (thickness 10mm or more glasswool or polyethylene form) is required.
4. Though the installation is acceptable up to maximum of 660mm square ceiling opening, keep the clearance of 45mm or less between the main unit and the ceiling opening so that the panel overlap allowance can be ebsured.

1 Liquid pipe connection ø6.4 Flare connection
2 Gas pipe connection ø9.5 Flare connection
3 Drain pipe connection VP20 (O.D. ø 26)
4 Power supply connection
5 Remote control code and control wiring connection
6 Air discharge grille
7 Air suction grille
8 Drain hose I.D. ø 25

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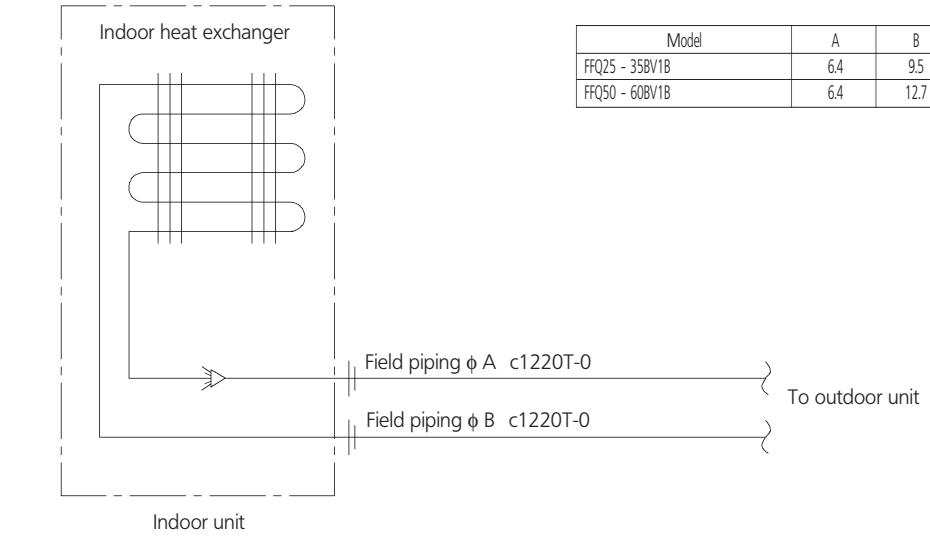
4 Piping diagrams

4

FFQ-B



Model	A	B
FFQ25 - 35BV1B	6.4	9.5
FFQ50 - 60BV1B	6.4	12.7

Check valve — Flare connection — Screw connection — Flange connection — Pinched pipe — Spinned pipe

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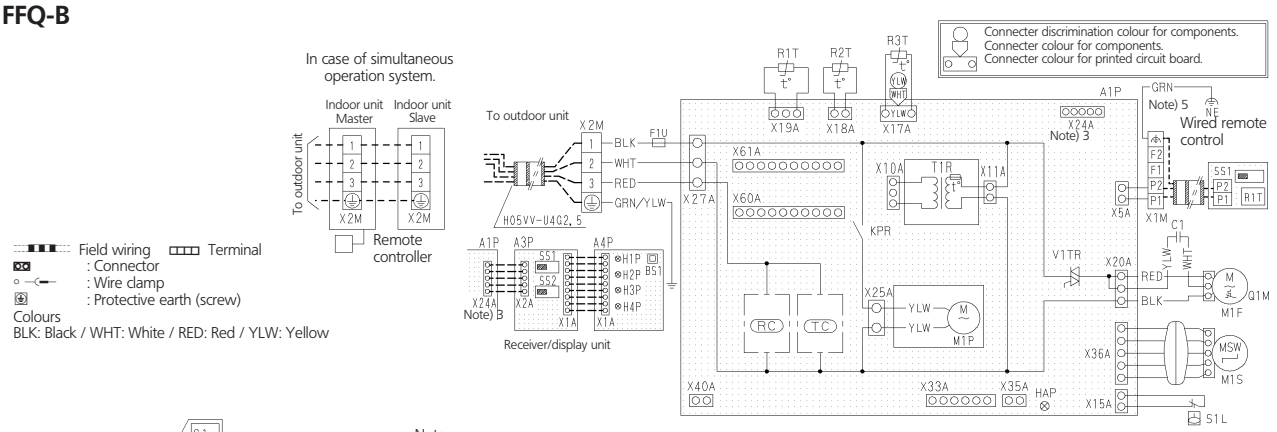
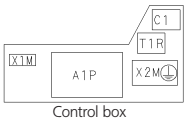
5 Wiring diagrams

FFQ-B





Notes

1. In case using central remote controller, connect it to the unit in accordance with the attached instruction manual.
2. X24A is connected when the infrared remote controller kit is being used.
3. Remote controller model varies according to the combination system, confirm technical materials and catalogs, etc. before connecting.
4. Ground the shield of the remote controller cord to the indoor unit (in case of using shield wire).
5. Symbols show as follows: RED:Red, BLK:Black, WHT:White, YLW:Yellow, PRP:Purple, GRY:Gray, BLU:Blue

A1P	Printed circuit board
C1	Capacitor (M1F)
F1U	Fuse (F5A 250V)
HAP	Light emitting diode (service monitor green)
KPR	Magnetic relay (M1P)
M1S	Motor (swing flap)
M1F	Motor (indoor fan)
M1P	Motor (drain pump)
Q1M	Thermo switch (M1F embedded)
R1T	Thermistor (air)
R2T	Thermistor (Coil-1)
R3T	Thermistor (Coil-2)

S1L	Float switch
T1R	Transformer (220-240V/22V)
V1TR	Phase control circuit
X1M	Terminal strip (power)
X2M	Terminal strip (control)
RC	Signal receiver circuit
TC	Signal transmission circuit
Wired remote control	
R1T	Thermistor (air)
SS1	Selector switch (main/sub)

Receiver / display unit (attached to infrared remote control)	
A3P	Printed circuit board
A4P	Printed circuit board
BS1	Push button (on/off)
H1P	Light emitting diode (on-red)
H2P	Light emitting diode (timer-green)
H3P	Light emitting diode (filter sign-red)
H4P	Light emitting diode (defrost-orange)
SS1	Selector switch (main/sub)
SS2	Selector switch (wireless address set)

Connector for optional parts	
X33A	Connector (adapter for wiring)
X35A	Connector (group control adapter)
X40A	Connector (on/off input from outside)
X60A, X61A	Connector (interface adapter for sky air series)

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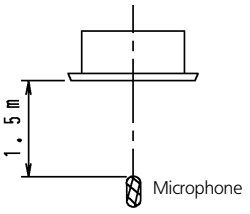
6 Sound level

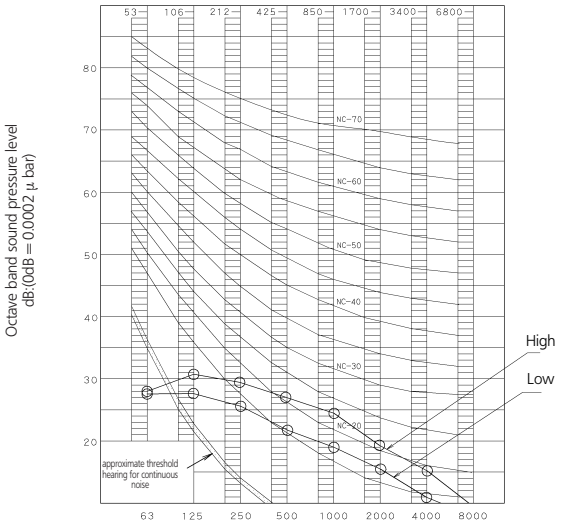
6-1 Sound level data

Model	Sound pressure level			Sound power level (H)
	230V, 50Hz		Measuring location	
	H	L		
FFQ25BV1B	29.5	24.5	Location of microphone 	46.5
FFQ35BV1B	32	25		49
FFQ50BV1B	36	27		53
FFQ60BV1B	41	32		58

6 Sound level

6-2 Sound pressure spectrum

FFQ25B



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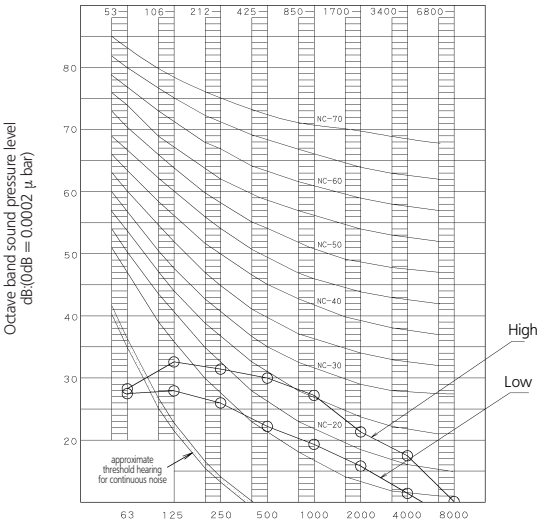
Octave band center frequency (Hz)

FFQ35B



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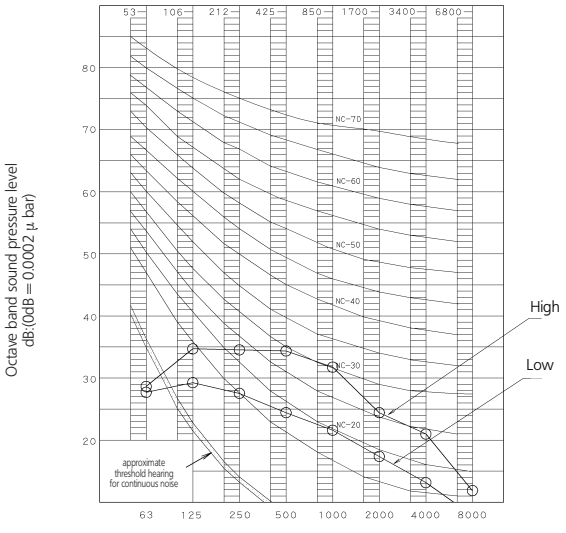
Octave band center frequency (Hz)

FFQ50B



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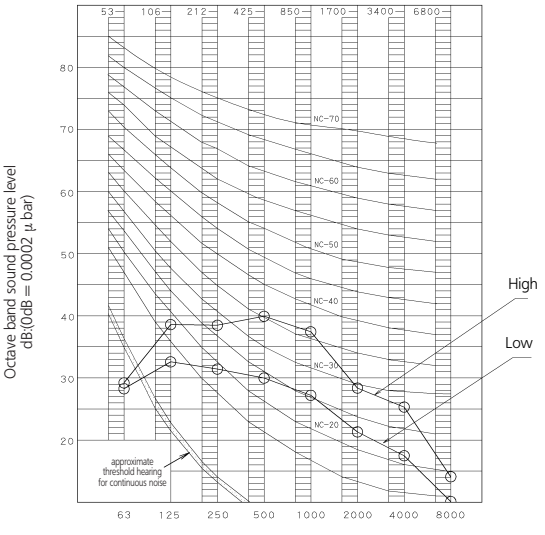
Octave band center frequency (Hz)

FFQ60B



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Octave band center frequency (Hz)

Legend

O—O 50Hz 230V (H)
O- -O 50Hz 230V (L)

NOTES

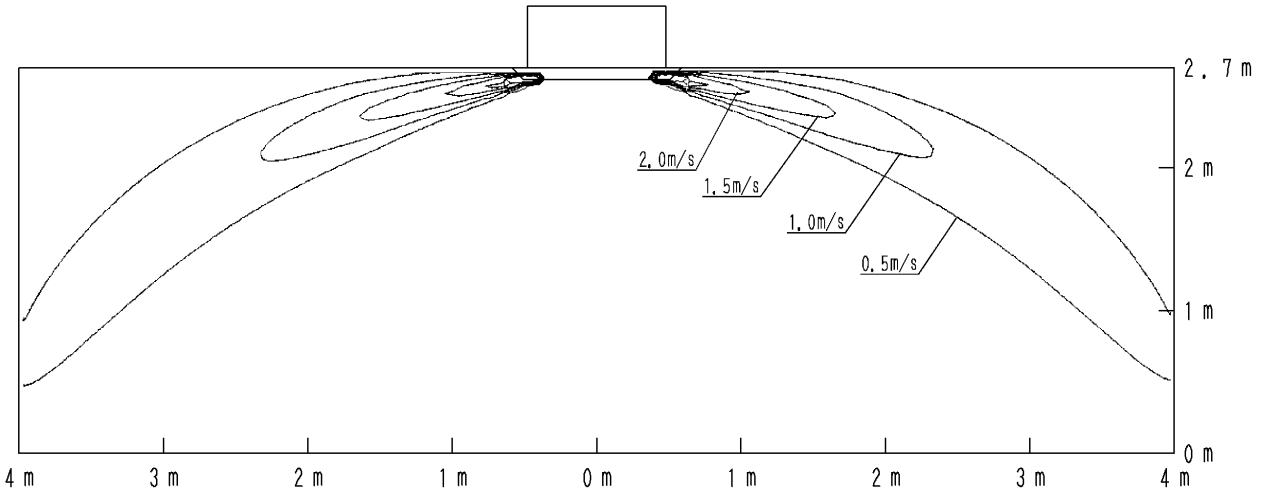
1 Operation noise differs with operation and ambient conditions.
2 Measuring place: anechoic room

7 Air flow patterns

FFQ25B

Cooling - air velocity distribution

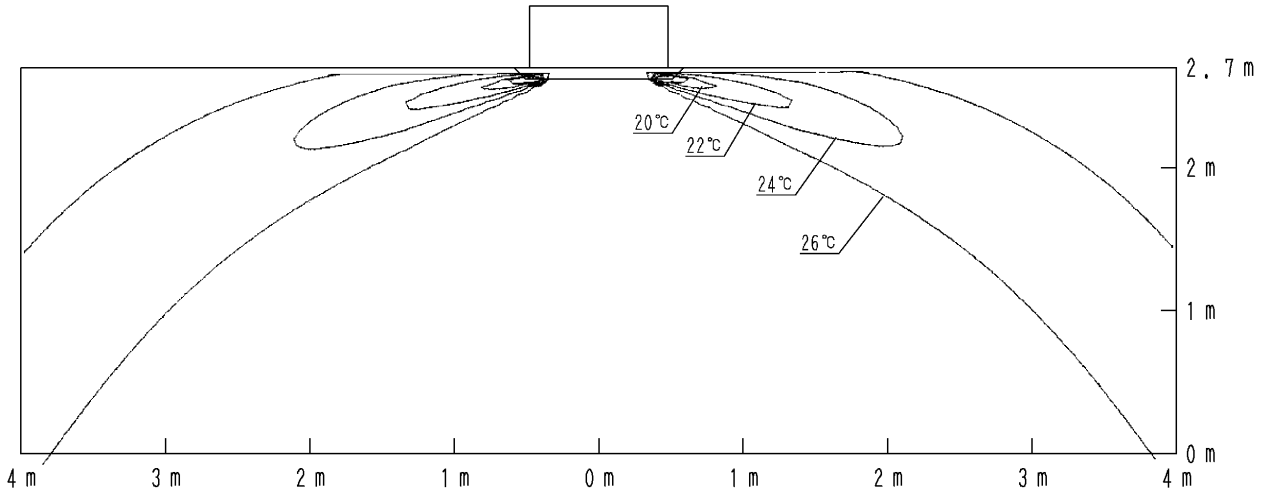
4-way discharge air flow direction: horizontal



FFQ25B

Cooling - air velocity distribution

4-way discharge air flow direction: horizontal



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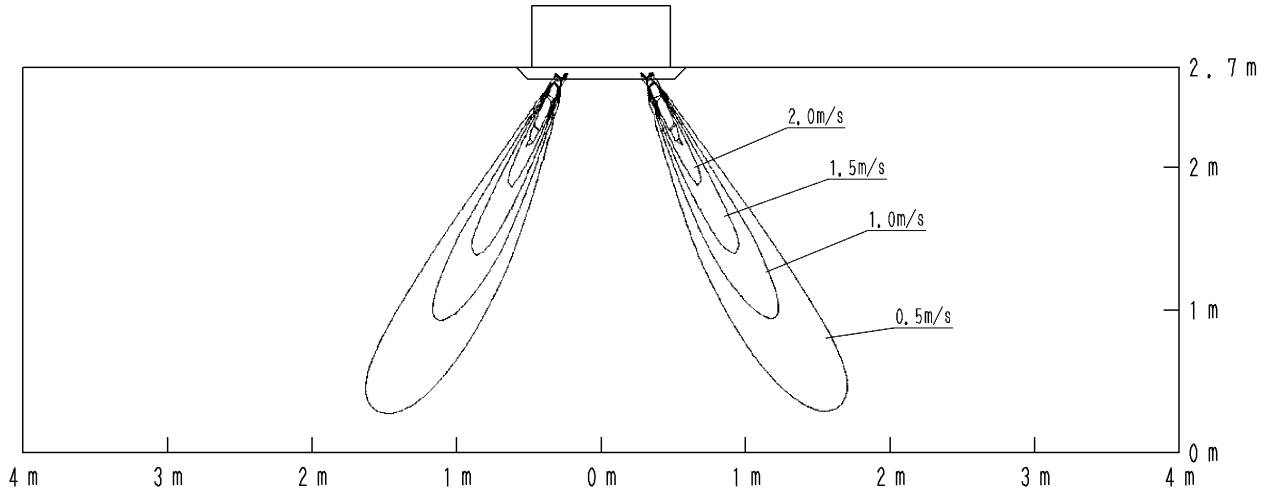
7 Air flow patterns

FFQ25B

Heating - air velocity distribution

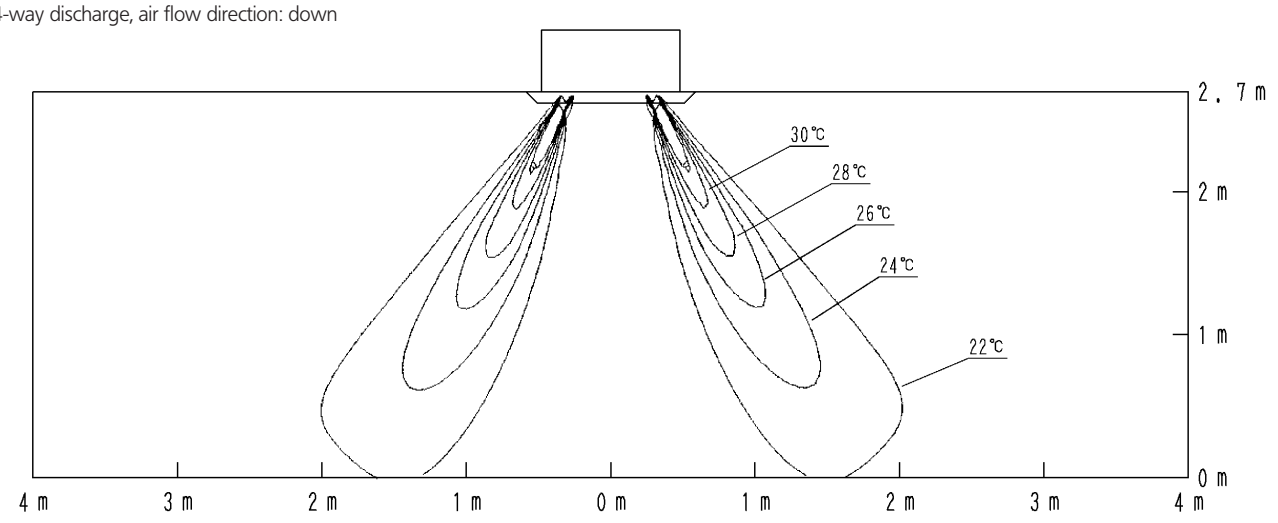
4-way discharge, air flow direction: down



FFQ25B

Heating - air temperature distribution

4-way discharge, air flow direction: down



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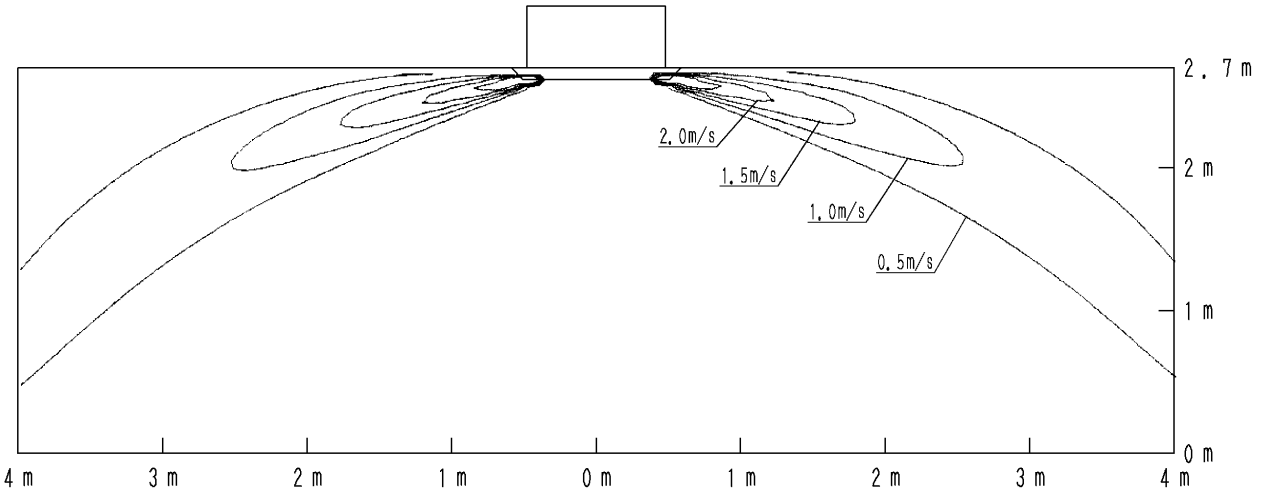
7 Air flow patterns

FFQ35B

Cooling - air velocity distribution

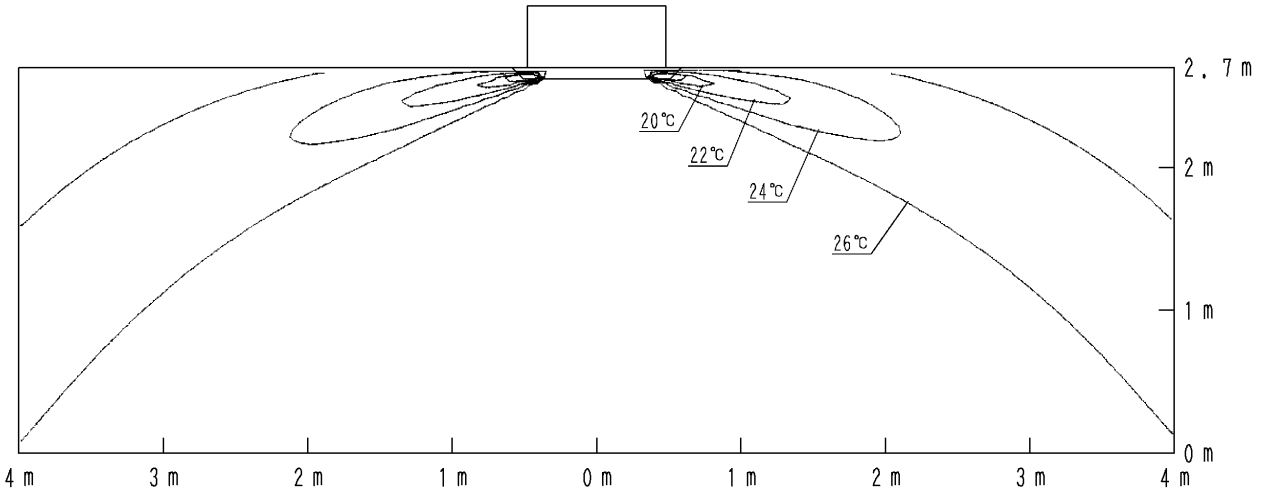
4-way discharge air flow direction: horizontal



FFQ35B

Cooling - air velocity distribution

4-way discharge air flow direction: horizontal



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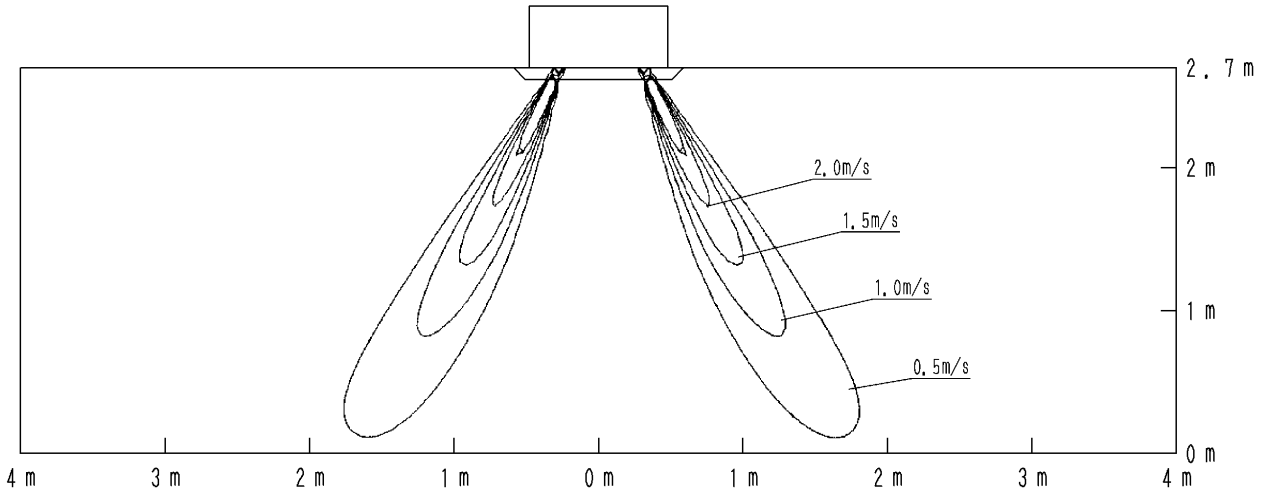
7 Air flow patterns

FFQ35B

Heating - air velocity distribution

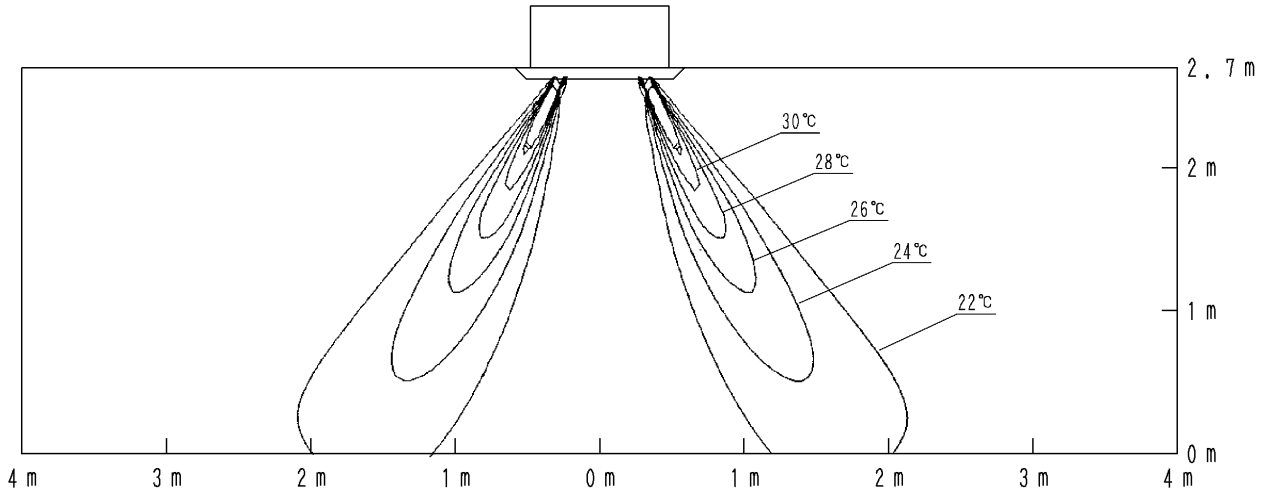
4-way discharge, air flow direction: down



FFQ35B

Heating - air temperature distribution

4-way discharge, air flow direction: down



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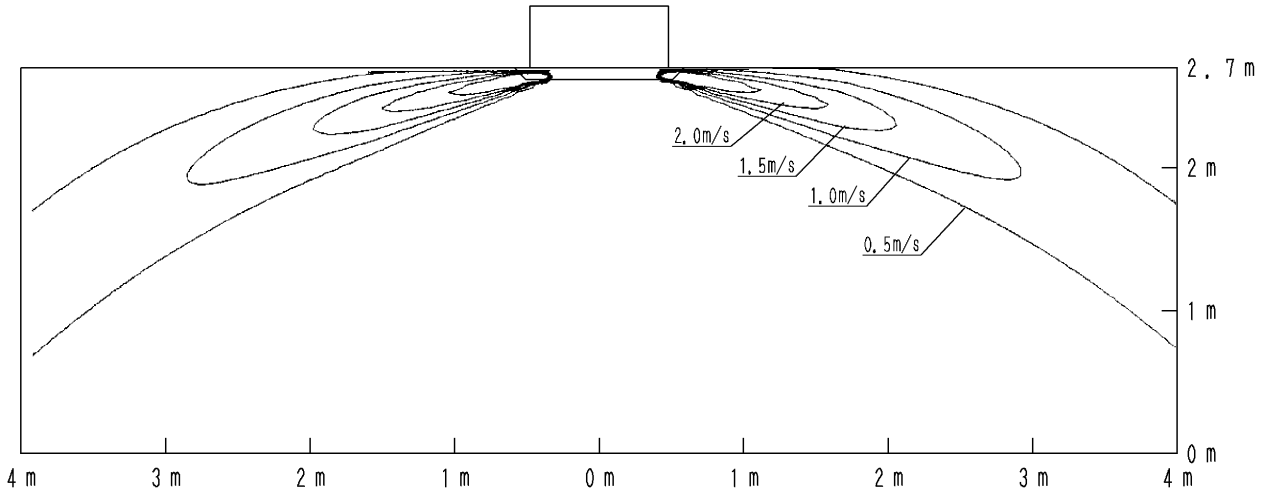
7 Air flow patterns

7

FFQ50B

Cooling - air velocity distribution

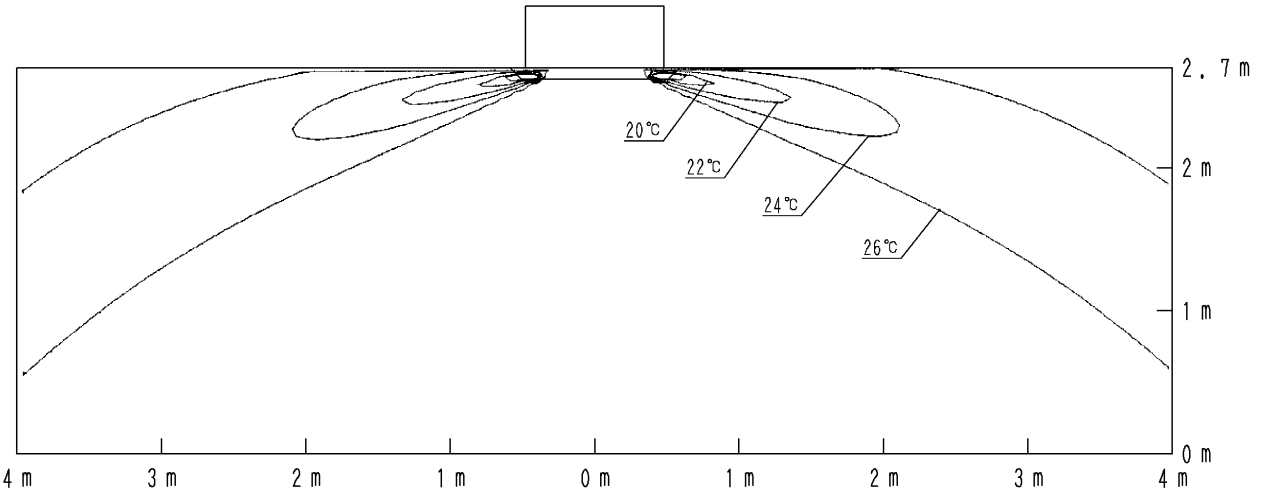
4-way discharge air flow direction: horizontal



FFQ50B

Cooling - air velocity distribution

4-way discharge air flow direction: horizontal



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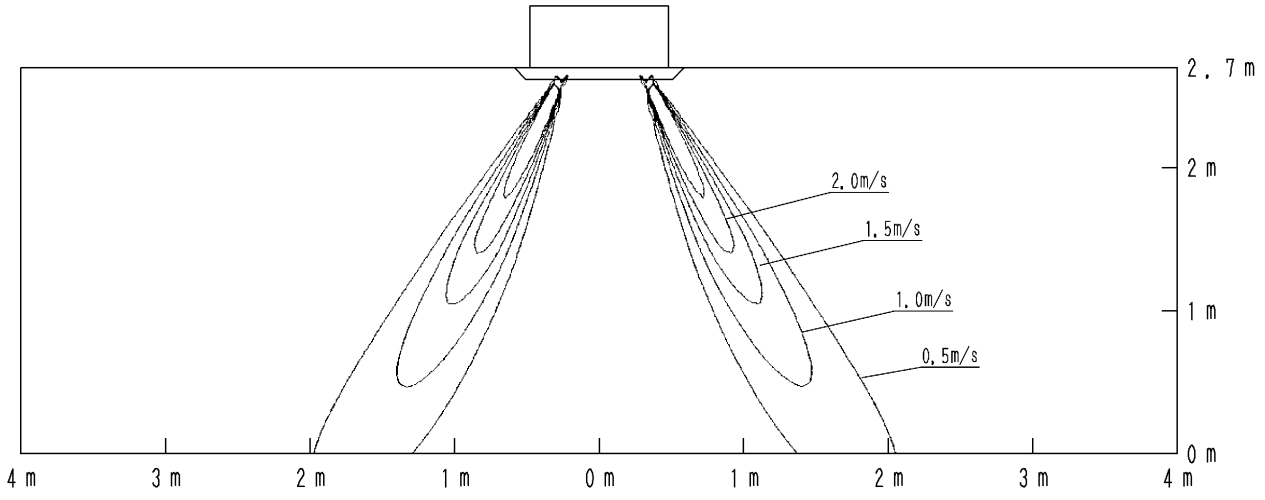
7 Air flow patterns

FFQ50B

Heating - air velocity distribution

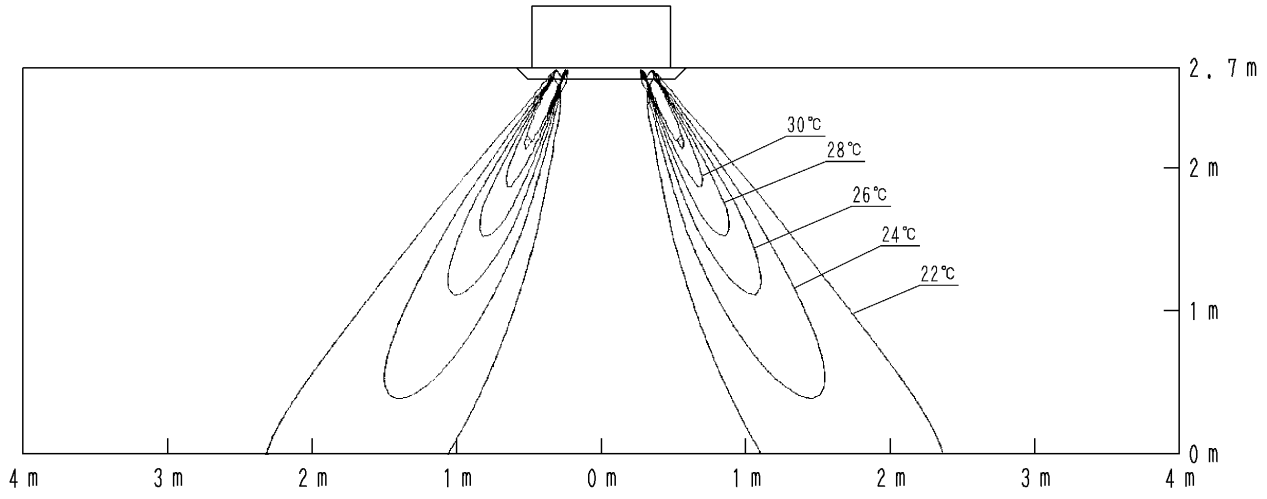
4-way discharge, air flow direction: down



FFQ50B

Heating - air temperature distribution

4-way discharge, air flow direction: down



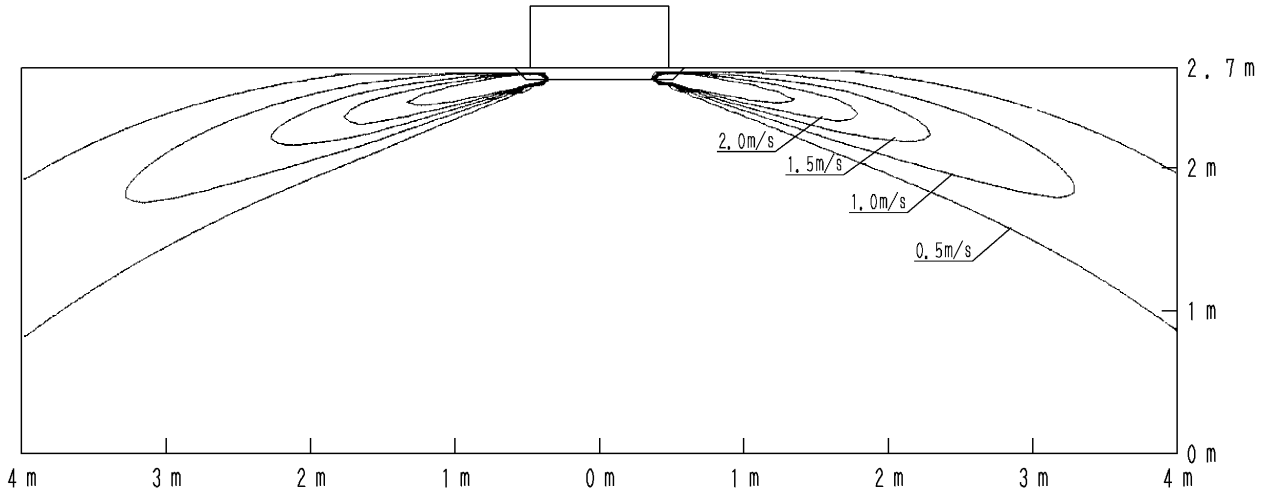
4D039848

7 Air flow patterns

FFQ60B

Cooling - air velocity distribution

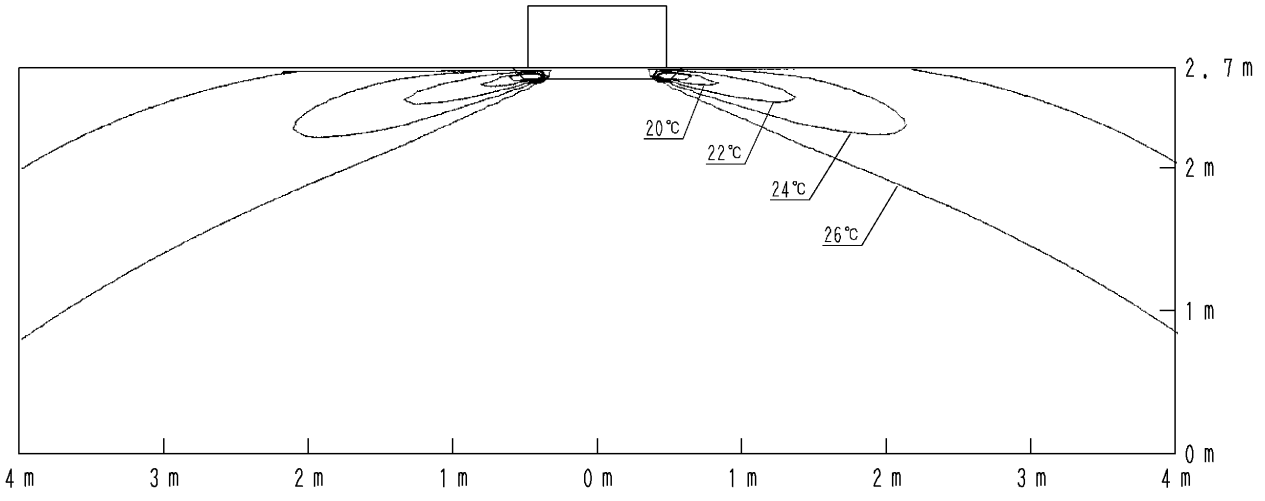
4-way discharge air flow direction: horizontal



FFQ60B

Cooling - air velocity distribution

4-way discharge air flow direction: horizontal



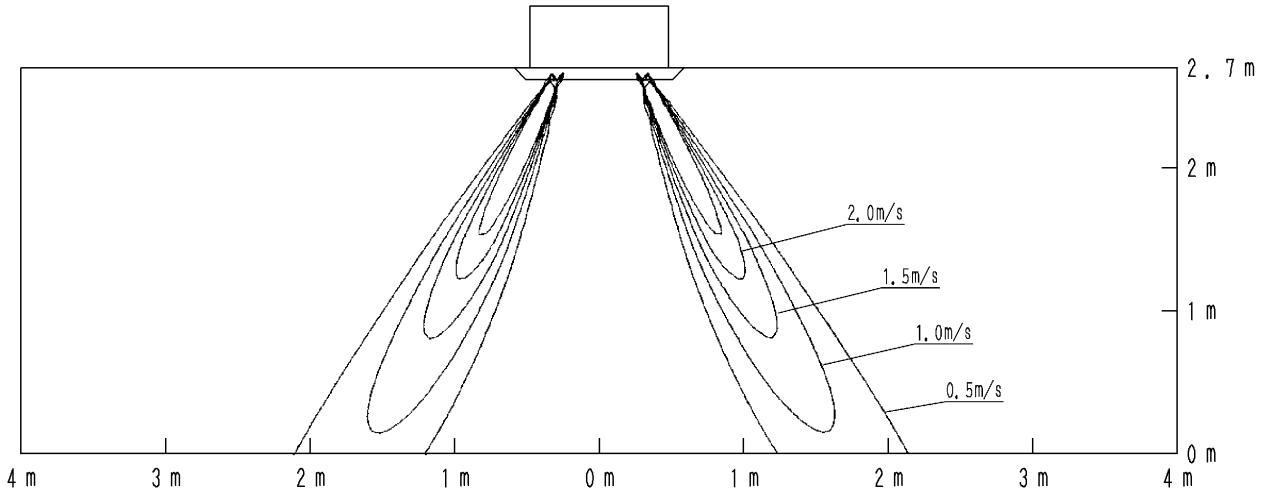
4D039733

7 Air flow patterns

FFQ60B

Heating - air velocity distribution

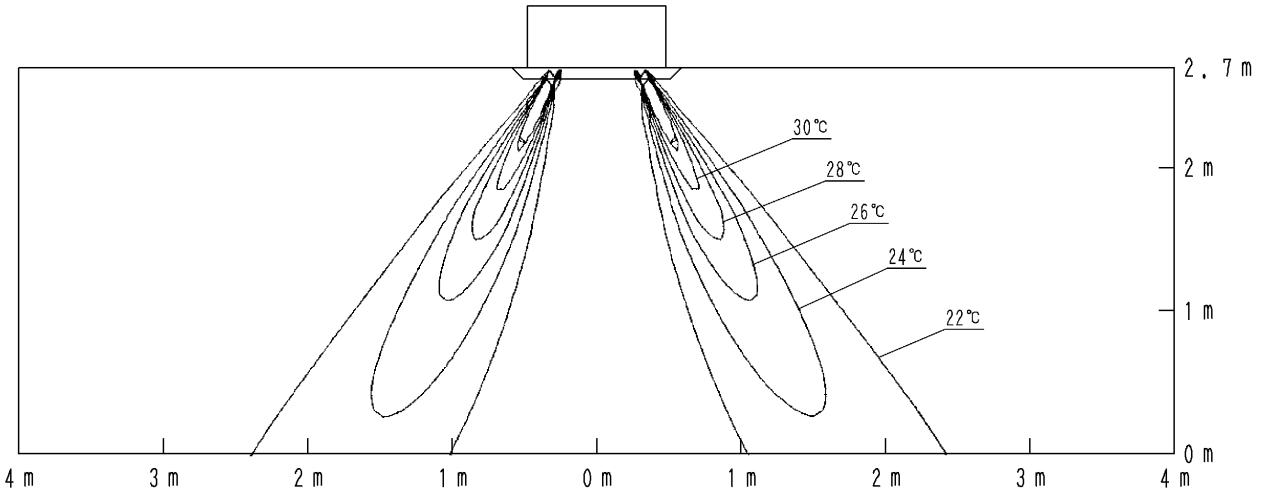
4-way discharge, air flow direction: down



FFQ60B

Heating - air temperature distribution

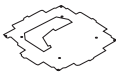
4-way discharge, air flow direction: down

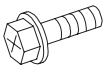
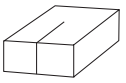


4D039849

8 Accessories

8-1 Standard accessories

Name	① Drain hose	② Clamp	③ Washer for hanging bracket	④ Clamp		⑤ Paper pattern for installation
Quantity	1 pc.	1 pc.	8 pcs.	(Big) 6 pcs.	(Small) 1 pc.	1 pc.
Shape						Also used as packing material 

Name	⑥ Screws (M5)	⑦ Washer fixing plate	Insulation for fitting	Sealing pad	⑫ Sealing material	(Other)
Quantity	4 pcs.	4 pcs.	1 each	1 each	2 pcs.	
Shape			 ⑧ For gas pipe ⑨ For liquid pipe	 ⑩ Large ⑪ Small		● Operation manual ● Installation manual

8 Accessories

8-2 Optional accessories

Name of option	Remark		FFQ25BV1B	FFQ35BV1B	FFQ50BVB	FFQ60BV1B
Decoration panel			BYFQ60BW1			
Sealing member of air discharge outlet			KDBHQ44B60			
Panel spacer			KDBQ44B60			
Fresh air intake kit	Direct installation type		KDDQ44X60			
Long life air filter			KAFQ441B60			
Remote controller	Wired type		BRC1C517			
	Infrared type	Heat pump	BRC7E530W			
		Cooling only	BRC7E531W			
Central remote control			DCS302B51			
Unified ON/OFF control			DCS301B51			
Schedule timer			DST301B51			
Adapter for wiring ※1			KRP1B57			
Wiring adapter for electrical appendices (2) ※1			KRP4A53			
Installation box for adapter PCB			KRP1B101			
Remote sensor			KRCS01-1			
Interface adapter for Sky Air series			DTA112B51			
Set back time clock			EKRORO			

Note) ※1; Installation box for adaptor PCB (KRP1B101) is necessary.

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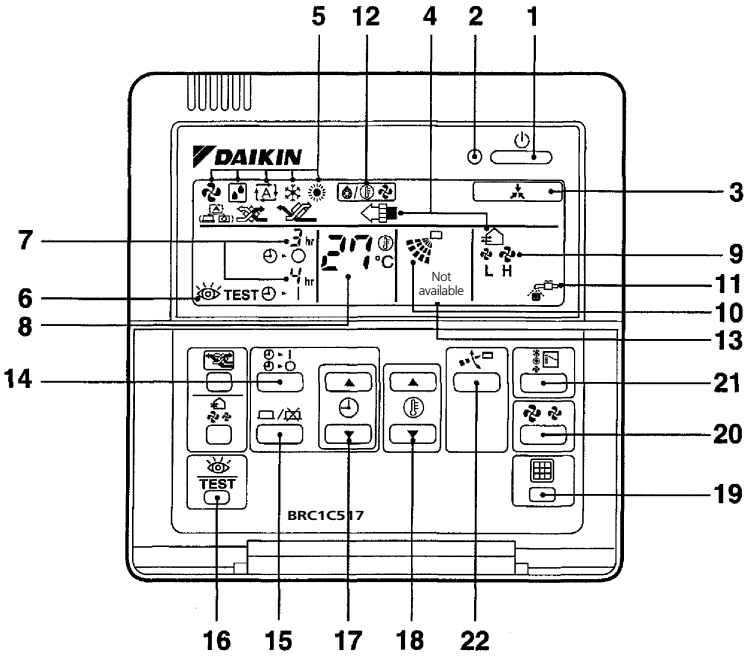
9 Control systems

9-1 Wired remote control

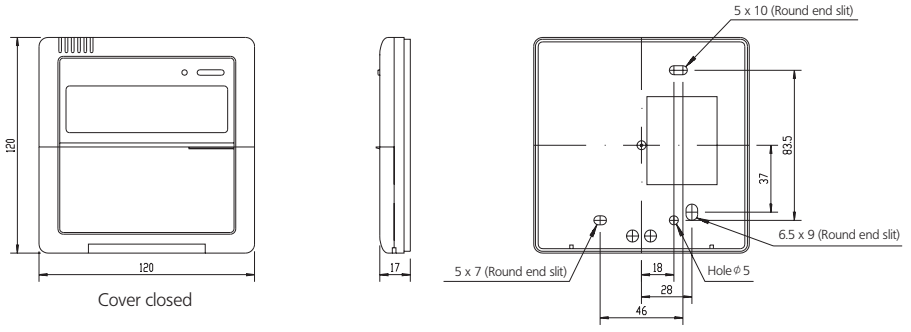
Figure 1

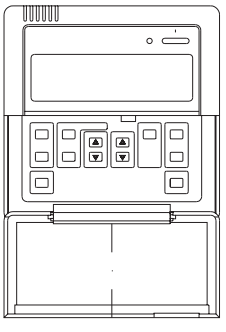
BRC1C517



Remote control

Figure 2





Cover open

3TW23651-1A

9 Control systems

9-1 Wired remote control

Name and function of each switch and display on the remote control

1	**ON/OFF BUTTON**
	Press the button and the system will start. Press the button again and the system will stop.
2	**OPERATION LAMP (RED)**
	The lamp lights up during operation.
3	**DISPLAY ' ' (UNDER CENTRALISED CONTROL)**
	When this display shows, the system is UNDER CENTRALISED CONTROL.
4	**DISPLAY " ", " ", " ", " ", " " (VENTILATION / AIR CLEANING)**
	This display shows that the total heat exchange unit and the air cleaning unit are in operation. These are optional accessories.
5	**DISPLAY ' ' ' ' ' ' ' ' ' ' (OPERATION MODE)**
	This display shows the current OPERATION MODE. For cooling only type, ' ' (Auto) and ' ' (Heating) are not installed.
6	**DISPLAY ' ' (INSPECTION/TEST OPERATION)**
	When the INSPECTION/TEST OPERATION BUTTON is pressed, the display shows the system mode is in.
7	**DISPLAY ' ' (PROGRAMMED TIME)**
	This display shows PROGRAMMED TIME of the system start or stop.
8	**DISPLAY ' ' (SET TEMPERATURE)**
	This display shows the set temperature.
9	**DISPLAY ' ' '(FAN SPEED)**
	The display shows the set fan speed.
10	**DISPLAY ' ' (AIR FLOW FLAP)**
11	**DISPLAY " " (TIME TO CLEAN AIR FILTER)**
12	**DISPLAY " " (DEFROST)**
13	**NON-FUNCTIONING DISPLAY**
	If that particular function is not available, pressing the button may display the words "NOT AVAILABLE" for a few seconds. When running multiple units simultaneously, the "NOT AVAILABLE" message will only appear if none of the indoor units is equipped with the function. If even one unit is equipped with the function, the display will not appear.
14	**TIMER MODE START/STOP BUTTON.**
15	**TIMER ON/OFF BUTTON**
16	**INSPECTION/TEST OPERATION BUTTON**
	This button is used only by qualified service persons for maintenance purposes.
17	**PROGRAMMING TIME BUTTON**
	Use this button for programming 'START and/or STOP' time.
18	**TEMPERATURE SETTING BUTTON**
	Use this button for SETTING TEMPERATURE.
19	**FILTER SIGN RESET BUTTON**
20	**FAN SPEED CONTROL BUTTON**
	Press this button to select the fan speed, HIGH or LOW, of your choice.
21	**OPERATION MODE SELECTOR BUTTON**
	Press this button to select OPERATION MODE.
22	**AIR FLOW DIRECTION ADJUST BUTTON**

(NOTE)

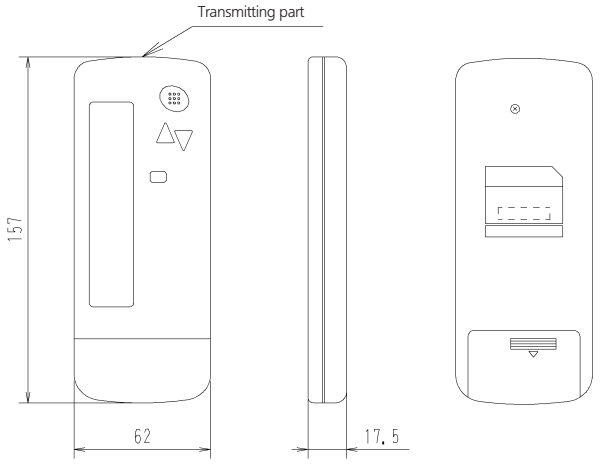
- For the sake of explanation, all indications are shown on the display contrary to actual running situations.

9 Control systems

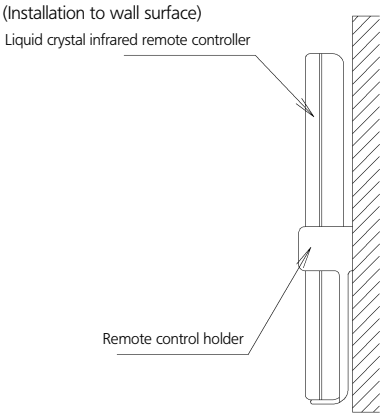
9-2 Infrared remote control kit

FFQ-B

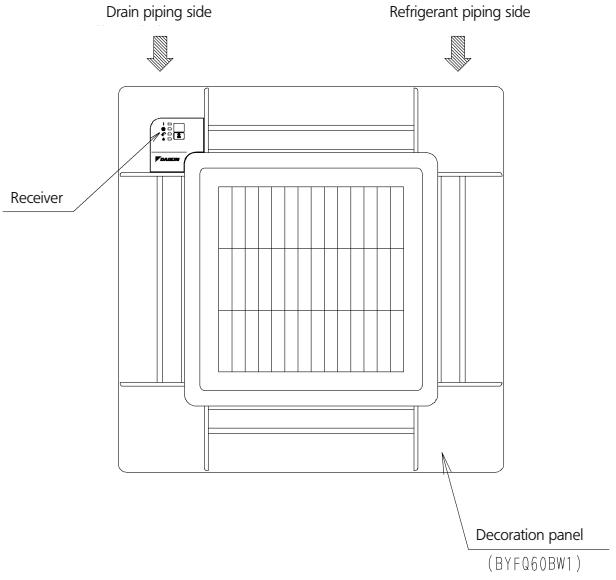
Remote control dimensions



Remote control holder
Installation procedure
(Installation to wall surface)



Receiver installation procedure



Receiver detail

10 Safety device settings

Model	Safety devices	25	35	50	60
FFQ-BV1B	Fuse	250V 5A	250V 5A	250V 5A	250V 5A
	Fan motor thermal protector (°C)	OFF: 130±5 ON: 83±20	OFF: 130±5 ON: 83±20	OFF: 130±5 ON: 83±20	OFF: 130±5 ON: 83±20

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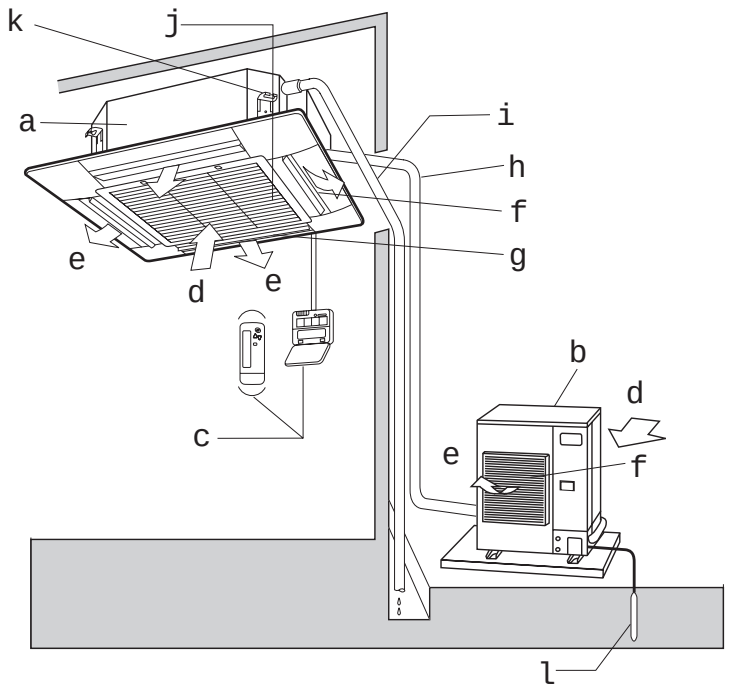
11 Installation

FFQ-B



Names and functions of parts

ⓐ Indoor unit
ⓑ Outdoor unit
The external appearance of the outdoor unit varies depending on its capacity class.
The outdoor unit shown in the figure is for reference to indicate features.
Contact your Daikin Dealer and verify which outdoor unit you have.
ⓒ Remote controller
ⓓ Inlet air
ⓔ Discharged air
ⓕ Air outlet
ⓖ Air flow flap (at air outlet)
ⓗ Refrigerant piping, connection electric wire
ⓘ Drain pipe
ⓙ Air inlet
The built-in air filter removes dust and dirt.
ⓚ Drain pumping out device (built-in)
Drains water removed from the room during cooling
Ⓛ Ground wire
Wire to ground from the outdoor unit to prevent electrical shocks.

11 Installation

11

NOTES

1 ——— Line voltage wiring
——— Control circuit wiring

2 All wiring, components and materials to be produced on the site must comply with the applicable local and national codes.

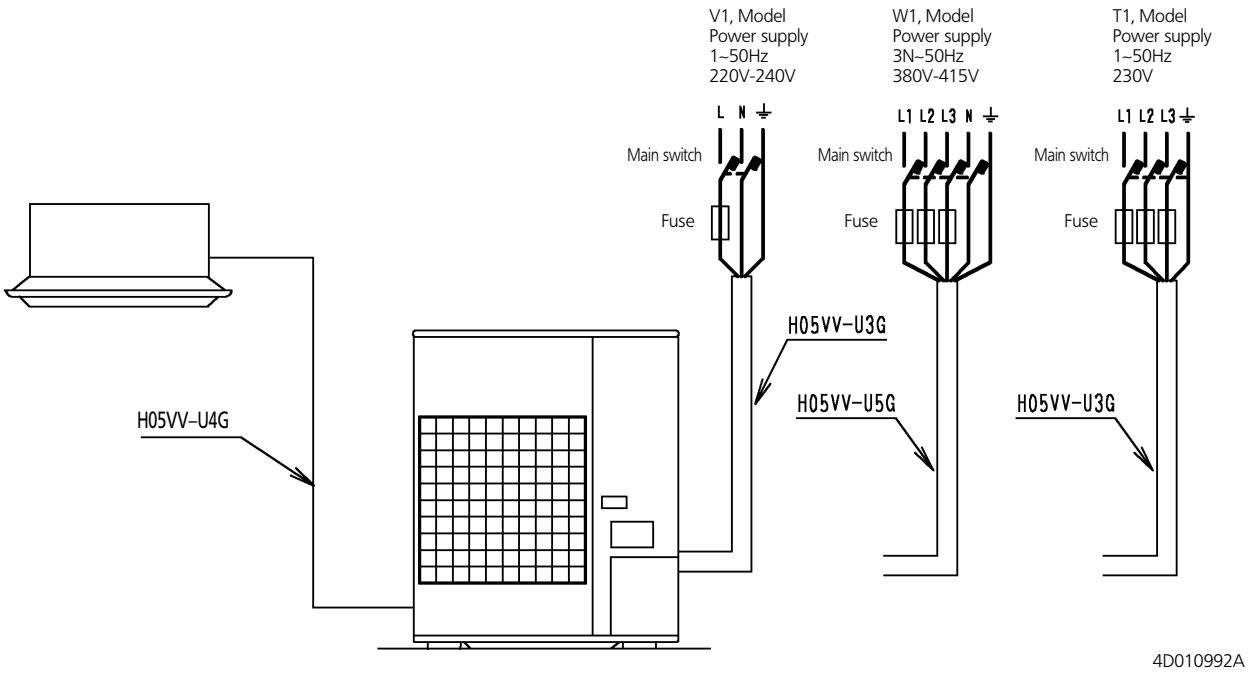
3 Use copper conductors only.

4 See wiring diagrams for details.

5 Install fuse and mainswitch for safety.

6 All field wiring and components must be provided by a licensed electrician.

7 The unit shall be grounded in compilance with the applicable local and national codes.

8 Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.

9 Never share a common power supply with other equipment.